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(57) [Abstract]

[Object]

By using a specific surface active agent as a validity strengthening agent, weeding effects are raised notably.

[Structure]

An ethoxyl-ized fatty amine system surface active agent How to use it as a validity strengthening agent for the weeding-out composite which contains other weeding-out components N-[(4,6-dimethoxypyrimidine 2-yl) aminocarbonyl]-3-dimethylamino carbonyl 2-pyridinesulfonamide and/or its salt, and if needed.

[Claims]

[Claim 1]

How to use an ethoxyl-ized fatty amine system surface active agent as a validity strengthening agent for the weeding-out composite containing N-[(4,6-dimethoxypyrimidine 2-yl) aminocarbonyl]-3-dimethylamino carbonyl 2-pyridinesulfonamide and/or its salt.

[Claim 2]

The weeding-out composite characterized by making an ethoxyl-ized fatty amine system surface active agent contain in the weeding-out composite containing N-[(4,6-dimethoxypyrimidine 2-yl) aminocarbonyl]-3-dimethylamino carbonyl 2-pyridinesulfonamide and/or its salt.

[Claim 3]

An ethoxyl-ized fatty amine system surface active agent N-[(4,6-dimethoxypyrimidine 2-yl) aminocarbonyl]-3-dimethylamino carbonyl 2-pyridinesulfonamide and/or its salt, 2,4-dichlorophenoxyacetic acid, its alkyl ester, and its salt, 3,6-dichloro-2-methoxybenzoic acid and its salt, 3,5-dibromo-4-hydroxy benzonitrile, The carboxylate and its salt, At least one sort chosen from the group which consists of an O-(6-chloro-3-phenyl-4-pyridazinyl) S-octyl Carbonnau thioate, a 2-[2-chloro-4-(methylsulfonyl) benzoyl]-1,3-cyclohexanedione, and its salt How to use it as a validity strengthening agent for the weeding-out composite to contain.

[Claim 4]

N-[(4,6-dimethoxypyrimidine 2-yl) aminocarbonyl]-3-dimethylamino carbonyl 2-pyridinesulfonamide and/or its salt, 2,4-dichlorophenoxyacetic acid, its alkyl ester, and its salt, 3,6-dichloro-2-methoxybenzoic acid and its salt, 3,5-dibromo-4-hydroxy benzonitrile, The carboxylate and its salt, At least one sort chosen from the group which consists of an O-(6-chloro-3-phenyl-4-pyridazinyl) S-octyl Carbonnaux thioate, a 2-[2-chloro-4-(methylsulfonyl) benzoyl]-1,3-cyclohexanedione, and its salt The weeding-out composite characterized by making an ethoxyl-ized fatty amine system surface active agent contain in the weeding-out composite to contain.

[Claim 5]

An ethoxyl-ized fatty amine system surface active agent to the weeding-out composite containing N-[(4,6-dimethoxypyrimidine 2-yl) aminocarbonyl]-3-dimethylamino carbonyl 2-pyridinesulfonamide and/or its salt 2,4-dichlorophenoxyacetic acid, The alkyl ester and its salt, 3,6-dichloro-2-methoxybenzoic acid, and its salt, 3,5-dibromo-4-hydroxy benzonitrile, its carboxylate, and its salt, At least one sort chosen from the group which consists of an O-(6-chloro-3-phenyl-4-pyridazinyl) S-octyl Carbonnaux thioate, a 2-[2-chloro-4-(methylsulfonyl) benzoyl]-1,3-cyclohexanedione, and its salt How to use it as a validity strengthening agent for the spray made to contain.

[Claim 6]

Claims 1 and 3 whose weeding-out composites are a water dispersible granule or a water-dispersible powder, or a procedure given in 5.

[Claim 7]

Claim 2 whose weeding-out composite is a water dispersible granule or a water-dispersible powder, or a weeding-out composite given in 4.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

The present invention relates to the technique which raises notably the weeding effects of the weeding-out composite containing the N-[(4,6-dimethoxypyrimidine 2-yl) aminocarbonyl]-3-dimethylamino carbonyl 2-pyridinesulfonamide (it abbreviates to compound A below) which is a weeding-out component, and/or its salt.

[0002]

[Conventional Technology]

These people acquired the knowledge that the pyridinesulfonamide system compound containing compound A and its salt had very high weeding effects to the wide range weeds containing a strongly damaging weed, and applied previously as Japanese Patent Application No. No. (Japanese Published Unexamined Application Showa No. 146873 [ 63 to J] 17323 [ 62 to J]. Furthermore, these people have applied as Japanese Patent Application No. No. 351474 [ four to J] about the procedure of using an ethoxyl-ized fatty amine system surface active agent as a validity strengthening agent for the oily suspended state weeding-out composite which contains other weeding-out components compound A and/or its salt, and if needed. The solid water solubility composite containing N-phosphonomethylglycine or its water soluble salt, and an ethoxyl-ized aliphatic amine surface active agent is indicated by the Japanese-translation-of-PCT-international-application common No. 502618 [ four to J] official report.

[0003]

In aspects of applied biology (Aspects of Applied Biology), the 9th volume, 149-158 pages, and 1985 The mixture of an ethoxyl-ized beef tallow alcoholic system surface active agent and an ethoxyl-ized beef tallow amine system surface active agent, and an ethoxyl-ized alkylphenol system surface active agent the weed-suppressive effect of chlorsulfuron (Chlorsulfuron) which is a weeding-out nature sulfonylurea system compound it is made to increase -- the purport statement is carried out. In European Patent application disclosure No.257686 alkoxyl-ized fatty amine as a validity accelerator (an alkoxy part) the herbicide or germicide composition in which consisting of ethylene oxide and the other alkylene oxide contains the description is indicated, and this alkoxyl-ized fatty amine reinforces the weeding effects of the sulfonyl urea system herbicide for maize -- the purport statement is carried out. Furthermore, in pesticide science (Pesticide Science), the 37th volume, 212-215 pages, and 1993 what mixed the alkoxyl-ized fatty amine and this alkoxyl-ized fatty amine which were mentioned above, and a non-ion system surface active agent reinforces the weeding effects of the herbicide (trade name: Accent) containing compound A -- the purport statement is carried out. However, the statement about the technique which raises notably the weeding effects of the weeding-out composite containing the compound A which is this specification, and/or its salt with an ethoxyl-ized fatty amine system surface active agent to the conventional technology mentioned above is not seen.

[0004]

[Disclosure of invention]

This inventor etc. is a weeding-out composite containing compound A and/or its salt. The place which inquired further so that this weeding-out composite might raise weeding effects about what is not oily suspended state, By using an ethoxyl-ized fatty amine system surface active agent as a validity strengthening agent, weeding effects could be raised notably, the knowledge that the amount of compound A and/or its salt used could be decreased in connection with this was acquired further, and the present invention was completed.

[0005]

That is, the present invention relates to the procedure of using an ethoxyl-ized fatty amine system surface active agent as a validity strengthening agent for the weeding-out composite containing compound A and/or its salt. Pharmaceutical preparation preparation of the weeding-out composite which contains (1) compound A and/or its salt in the present invention is carried out beforehand. Depending on the procedure and (2) formulation which dilute and sprinkle it with the water which contains an ethoxyl-ized fatty amine system surface active agent at the time of spraying The procedure of diluting with water the weeding-out composite which prepared this surface active agent with compound A and/or its salt beforehand depending on the weeding-out composite and (3) formulation which carried out pharmaceutical preparation preparation of this surface active agent with compound A and/or its salt beforehand, and sprinkling it etc. is included.

[0006]

Moreover, it is expectable in the present invention that the weeding effects which were included also when other weeding-out components were included, and were further excellent in this case with compound A and/or its salt as a weeding-out component are shown. As these other weeding-out components, for example 2,4-dichlorophenoxyacetic acid (generic name: 2, 4-D; 2,

4-dee), The alkyl ester and its salt, 3,6-dichloro-2-methoxybenzoic acid (generic name: Dicamba; Dicamba), and its salt, 3,5-dibromo-4-hydroxy benzonitrile (generic name: Bromoxynil; bromoxynil). The carboxylate and its salt, an O-(6-chloro-3-phenyl-4-pyridazinyl) S-octyl Carbonnaux thioate (generic name-yridate; pilus date), At least one sort chosen from a 2-[2-chloro-4-(methylsulfonyl) benzoyl]-1,3-cyclohexanedione (generic name: Sulcotrione; SURUKO trione), its salt, etc. is mentioned. In addition, the above-mentioned compound A and/or its salt, and other weeding-out components may mix what could prepare together and was prepared independently at the time of spraying.

[0007]

As a salt of the compound A contained in the present invention, a salt with amine, such as a salt with alkaline earth metals, such as a salt with alkali metals, such as sodium and potassium, magnesium, and calcium, or monomethylamine, dimethylamine, and triethylamine, etc. is mentioned. In addition, the compound A contained in the present invention may coexist with the salt. Moreover, as a salt contained in other weeding-out components mentioned above They are mentioned by a salt or dimethylammonium salt with amine, such as a salt of the above-mentioned compound A, same salt, diol amine, and TORORU amine, etc., and as alkyl ester Ester, such as ethyl, butyl, heptyl, octyl, isooctyl, and butoxyethyl, is mentioned, and ester with carboxylic acid like butanoic acid, heptanoic acid, and octanoic acid is mentioned as carboxylate.

[0008]

As an ethoxyl-ized fatty amine system surface active agent contained in the present invention, the thing of an ethoxyl-ized beef tallow amine system, the thing of an ethoxyl-ized soybean amine system, the thing of an ethoxyl-ized coconut amine system, etc. are mentioned. Moreover, as for ethylene oxide in the above-mentioned ethoxyl-ized fatty amine system surface active agent, an about an average of 5-20mol thing is usually used.

[0009] As an example of the ethoxyl-ized fatty amine system surface active agent used in the present invention As a thing of an ethoxyl-ized beef tallow amine system, for example, the frigate (Frigate), Ethylan (Ethylan)TT-15, Jenna Min (Genamin) T-150, Jenna Min T-200, Ethomeen (Ethomeen) T-25, Sorpol(Sorpol)7553, Sorpol 7409, new cull gene D-3615T, etc. are mentioned. As a thing of an ethoxyl-ized soybean amine system, Sorpol 7721, the new cull gene D-3605, etc. are mentioned, and Sorpol 7376, the new cull gene D-3110, Ethomeen C-12, etc. are mentioned as a thing of an ethoxyl-ized coconut amine system. In addition, although each thing mentioned here is a trade name A frigate is a thing by an ISK bio-tech company, and Jenna Min T-150 and this T-200 are the things by Hoechst A.G. Sorpol 7553 -- said -- 7409 -- said -- 7721 -- and -- said -- 7376 is a thing by Toho Chemical Industry Co., Ltd. -- new cull gene D-3615T and said D-3605 -- and -- said -- D-3110 is a thing made from Takemoto Fats and oils. Moreover, Ethylan TT-15, Ethomeen T-25, and this C-12 are indicated in Weed research (WeedResearch), the 20th volume, 139-146 pages, and 1980. Moreover, Ethylan TT-15 is indicated also in Zizaniology (Zizaniology), the 2nd volume, 183-189 pages, and 1990.

[0010]

The weeding-out composite containing the compound A mentioned above and/or its salt usually mixes a weeding-out component (other weeding-out components are included by compound A and/or its salt, and a case), and various adjuvants, and pharmaceutical preparation preparation is carried out at the gestalt of a water dispersible granule, a water-dispersible powder, etc. in this

case, the blending ratio of coal of a weeding-out component and various adjuvants -- 1:99-90:10 -- it is desirably chosen suitably within the limits of 1:99-85:15.

[0011]

As the various above-mentioned adjuvants, fatty acid salt, benzoate, alkyl sulfosuccinate, Dialkyl sulfosuccinate, polycarboxylic acid salt, an alkyl-sulfuric-acid ester salt, Alkyl sulfate, an alkyl aryl sulfate salt, an alkyl diglycol ethereal sulfate salt, Alcoholic sulfuric ester salt, an alkyl-sulfonic-acid salt, alkylaryl sulfonates, Aryl sulfone acid salt, lignin sulfonate, alkyl diphenyl ether disulfone acid salt, A polystyrene sulfonate salt, alkyl phosphate, alkyl aryl phosphate, Styryl aryl phosphate, polyoxyethylene-alkyl-ether sulfuric ester salt, Polyoxyethylene allyl ether sulfuric ester salt, polyoxyethylene alkyl allyl ether sulfate, Polyoxyethylene alkyl allyl ether sulfuric ester salt, polyoxyethylene-alkyl-ether phosphate, The surface active agent and spreader of an anion system like polyoxyethylene alkyl aryl phosphoric acid ester salt and the salt of naphthalenesulfonic acid formalin condensate; A sorbitan fatty acid ester, a glycerine fatty acid ester and a fatty acid poly GU resaler -- ide and fatty acid alcoholic polyglycol ether -- Acetyleneglycol, acetylene alcohol, oxy alkylene block polymer, Polyoxyethylene alkyl ether, polyoxyethylene alkyl allyl ether, Polyoxyethylene styryl allyl ether, polyoxyethyleneglycol alkyl ether, Polyoxyethylene fatty acid ester, polyoxyethylene sorbitan fatty acid ester, Polyoxyethylene glycerine fatty acid ester, polyoxyethylene hydrogenated castor oil, The surface active agent and spreader of a non-ion system like polyoxypropylene fatty acid ester; Kieselguhr, Slaked lime, calcium carbonate, a talc, white carbon, kaolin, bentonite, Kaolinite and the mixture of an auction side, soluble starch, sodium carbonate, Solid carriers, such as sodium bicarbonate, a salt cake, clay, and zeolite; Normal paraffin, The aliphatic hydrocarbon like isoparaffin, benzene, alkylbenzene, The aromatic hydrocarbon like naphthalene, alkyl naphthalene, diphenyl, and phenyl xylyl ethane, N-methylformamide, N-methylpyrrolidone, dimethyl sulfoxide, azotic and the sulfur-containing solvent like 1,3-dimethyl-2-imidazolidinone, propanol, The alcohols like isobutanol, the ether like dioxane, Cyclohexane, the ketone like methyl isobutyl ketone, isopropyl acetate, Solvents, such as an esters like butyl acetate, acetic acid, fatty acid like butyric acid, and water; A salt cake, Extenders, such as salt, mineral salt like ammonium phosphate, bentonite, and sugar; Ligninsulfonic acid, Binders, such as a starch; Silicon dioxide, an amyolysis object, kaolin, The artificial synthetic of clay, a talc, kieselguhr, kieselguhr, and lime, asbestos, world SERABON, Kaolinite and the mixture of sericite, calcium silicate, precipitated calcium carbonate, Silicification precipitated calcium carbonate, acid clay, carbon black, natural soil-like graphite, Oil absorption agents, such as a pearlite (pearlite) work, ultrafine particle acid anhydride-ized aluminum, finely divided titanium oxide, basic magnesium carbonate, magnesium aluminosilicate, a silica alumina synthesis filler, and water magnesium silicate; a phytotoxicity mitigating agent, disintegrators, etc. are mentioned further. In addition, you may use what was mentioned as an adjuvant, mixing suitably.

[0012]

Although the case where pharmaceutical preparation preparation of the ethoxyl-ized fatty amine system surface active agent is beforehand carried out with compound A and/or its salt depending on formulation is included in the present invention in that case -- if the blending ratio of coal of this surface active agent is expressed with a bulk density on the basis of the whole pharmaceutical preparation -- 2 - 75 weight part -- it is 3.9 - 65 weight part desirably.

[0013]

Although the weeding-out composite which contains the compound A by which pharmaceutical preparation was carried out, and/or its salt in the gestalt of a water dispersible granule, a water-dispersible powder, etc. as mentioned above has various advantages respectively. For example, since agrochemical components do not carry out direct contact to a container by wrapping these pharmaceutical preparation in a water-soluble film etc., and putting it into various containers, it not only can dispose of the container after an activity by simple procedures, such as incineration, but it is recyclable. In addition, the pharmaceutical preparation into which it wrapped in this water-soluble film etc., and was put by various containers. Since it is taken out easily and water distributes easily after that by leaning the container or sending in air in a container, it is effective in diluting and sprinkling with the water containing water or an ethoxylized fatty amine system surface active agent. When diluting and sprinkling the weeding-out composite containing compound A and/or its salt in the present invention with the water containing an ethoxylized fatty amine system surface active agent. Usually, an ethoxylized fatty amine system surface active agent is diluted and sprinkled with 0.01 to 2 capacity %, and 100-1000L/ha of water 0.05-1 capacity % Included desirably.

[0014]

The weeding-out composite of the present invention in which validity was reinforced by carrying out foliage treatment KOGOMEGAYATURI, Cyperaceous weeds, such as HASUMAGE, barnyard grass, common crab grass, bristle grass, Gramineous weeds, such as crab grass, oats, Johnson grass, and Dutch grass, An abutilon theophrasti, Ipomoea purpurea, a fat hen, Sida spinosa, purslane, Since the weeds of large range, such as broad leaf weeds, such as a slender amaranth, Cassia obtusifolia, Solanum nigrum, Polygonum scabrum, chickweed, a cocklebur, a wavy bittercress, a henbit, and eno GIKUSA, can be prevented. Of course, upland field can be [ the applicability ] various with non-crop land, such as crop land, such as an orchard and a mulberry field, a forest, a farm road, a gland, a plant site, and a grass plot, in addition to upland field. Since especially the weeding-out composite of the present invention in which validity was reinforced can prevent harmful weeds, without doing damage to maize, it is dramatically useful as a weeding-out composite for corn-growing places. Moreover, it can also use together or use together with other agricultural chemicals, a fertilizer, a phytotoxicity mitigating agent, etc., and it can be expected that the effect which was further excellent in this case, and action nature will be shown.

[0015]

[Examples]

Although the execution example of the present invention is indicated below, the present invention is not limited to these.

Execution example 1

- (1) Compound A (93.8% of purity): 82.4 weight parts
- (2) Alkyl sodium naphthalenesulfonate salt condensate (trade name: SUPRAGILMNS / 90; Rhone-Poulenc S.A. make): 5.0 weight parts
- (3) Sodium salt of dodecylbenzenesulfonic acid (trade name: made by RHODACALLDS-10; Rhone-Poulenc S.A.): 4.0 weight parts
- (4) Salt cake: 8.6 weight parts

the above component was mixed uniformly, water was added there, and it kneaded further -- backer appearance was carried out and it corned, and it dried, and the whole grain was carried out and the water dispersible granule was obtained. This is diluted and sprinkled with the water containing an ethoxyl-ized fatty amine system surface active agent.

[0016]

Execution example 2

- (1) Compound A (93.8% of purity): 82.8 weight parts
- (2) SUPRAGILMNS/90 (trade name): 5.0 weight parts
- (3) RHODACALLDS-10 (trade name): 4.0 weight parts
- (4) Bentonite: 8.2 weight parts

the above component was mixed uniformly, water was added there, and it kneaded further -- backer appearance was carried out and it corned, and it dried, and the whole grain was carried out and the water dispersible granule was obtained. This is diluted and sprinkled with the water containing an ethoxyl-ized fatty amine system surface active agent.

[0017]

Execution example 3

- (1) Compound A (93.8% of purity): 82.8 weight parts
- (2) SUPRAGILMNS/90 (trade name): 5.0 weight parts
- (3) Sodium salt of dodecylbenzenesulfonic acid (trade name: neo gene powder; Dai-Ichi Kogyo Seiyaku Co., Ltd. make): 12.2 weight parts

the above component was mixed uniformly, water was added there, and it kneaded further -- backer appearance was carried out and it corned, and it dried, and the whole grain was carried out and the water dispersible granule was obtained. This is diluted and sprinkled with the water containing an ethoxyl-ized fatty amine system surface active agent.

[0018]

Execution example 4

- (1) Compound A: 81.5 weight parts
- (2) Ethoxyl-ized tristyril phenol sulfuric ester salt (trade name: made by Soprophor4D384; Rhone-Poulenc S.A.): 2.0 weight parts
- (3) Polycarboxylic acid salt (trade name: GeroponT / 36; Rhone-Poulenc S.A. make): 3.0 weight parts
- (4) SUPRAGILMNS/90 (trade name): 5.0 weight parts
- (5) Sodium salt of alkyl naphthalenesulfonic acid (trade name: made by SUPRAGILWP; Rhone-Poulenc S.A.): 2.0 weight parts
- (6) Clay (trade name: clay for hydration; product made from TODOROKI Industry): 6.5 weight parts

The above component is mixed and a water-dispersible powder is obtained. This is diluted and sprinkled with the water containing an ethoxyl-ized fatty amine system surface active agent.

[0019]

Execution example 5

- (1) Compound A: 52.3 weight parts

(2) Polycarboxylic acid salt (trade name: GeroponSC / 211; Rhone-Poulenc S.A. make): 8.0 weight parts

(3) SUPRAGILWP (trade name): 4.0 weight parts

(4) Clay (before said): 35.7 weight parts

The above component is mixed and a water-dispersible powder is obtained. This is diluted and sprinkled with the water containing an ethoxyl-ized fatty amine system surface active agent.

[0020]

Execution example 6

(1) Compound A (93.8% of purity): 82.4 weight parts

(2) SUPRAGILMNS/90 (trade name): 5.0 weight parts

(3) Neo gene powder (trade name): 10.6 weight parts

(4) Ligninsulfonic acid: 2.0 weight parts

the above component was mixed uniformly, water was added there, and it kneaded further -- backer appearance was carried out and it corned, and it dried, and the whole grain was carried out and the granulate water-dispersible powder was obtained. This is diluted and sprinkled with the water containing an ethoxyl-ized fatty amine system surface active agent.

[0021]

Execution example 7

(1) Compound A (93.15% of purity): 82.98 weight parts

(2) SUPRAGILMNS/90 (trade name): 5.0 weight parts

(3) Neo gene powder (trade name): 11.43 weight parts

(4) Salt cake: 0.59 weight part

the above component was mixed uniformly, water was added there, and it kneaded further -- backer appearance was carried out and it corned, and it dried, and the whole grain was carried out and the granulate water-dispersible powder was obtained. This is diluted and sprinkled with the water containing an ethoxyl-ized fatty amine system surface active agent.

[0022]

Experiment example 1

What filled ariculture soil in a 1/1,000,000ha pot was prepared by 2 ream system, and seeding of the seed of common crab grass was carried out. Then, when common crab grass reached at three to 3.3 leaf stage, the water dispersible granule obtained in the above-mentioned execution example 1 was diluted with 500L/ha of water containing the frigate (trade name) of predetermined quantity, and foliage treatment was carried out by the small spray. Moreover, simultaneously as a comparison example The water dispersible granule obtained in the above-mentioned execution example 1 The surface active agent which uses as an active substance the surface active agent (trade name: new RINO; NIHON NOHYAKU CO., LTD. make) or polyoxyethylene octylphenyl ether which uses the polyoxyethylene nonylphenyl ether and calcium ligninsulfonate of predetermined quantity as an active substance (-- trade name: -- chain no; -- it diluted with 500L/ha of water containing) by NIHON NOHYAKU CO., LTD., and foliage treatment was carried out by the small spray. Observational research (rate (%)=0:district normal[ unprocessed ] -100: perfect killing) of the growth state of common crab grass was carried out 20 days after treatment with the naked eye, and the result of the 1st table was



obtained. [ of growth inhibition ]

[0023]

[Table 1]

第 1 表

効力増強剤 の種類・名 (商品名)	効力増強剤の添加量 (水に対する容量%)	化合物 A の 施用量 (g/ha)	生育抑制率 (%)	
			メヒシバ	
フリゲート	1.0	40	95	95
		20	100	98
		10	80	75
		5	45	45
	0.5	40	98	98
		20	100	85
		10	75	75
		5	40	45
	0.25	40	98	98
		20	80	85
		10	60	50
		5	20	20
比較例	クザリ ノー	40	80	75
		20	60	70
		10	40	30
		5	0	0
	0.25	40	50	55
		20	50	20
		10	5	0
		5	0	0
	新リノ ー	40	10	10
		20	0	0
		10	0	0
		5	0	0

[0024]

Experiment example 2

What filled ariculture soil in a 1/1,000,000ha pot was prepared by 2 ream system, and seeding of the seed of common crab grass was carried out. Then, when common crab grass reached at 4.3 leaf stages, the water dispersible granule obtained in the above-mentioned execution example 2 was diluted with 200l./ha of water containing the frigate (trade name) of predetermined quantity, and foliage treatment was carried out by the small spray. 28 days after treatment, observational research of the growth state of common crab grass was carried out like the above-mentioned experiment example 1 with the naked eye, and the result of the 2nd table was obtained.

[0025]

[Table 2]

第 2 表

フリゲートの添加量 (水に対する容量%)	化合物 A の 施用量(g/ha)	生育抑制率 (%)	
		メヒシバ	
0.5	40	95	90
	30	95	90
	20	80	80

[0026]

The outstanding growth inhibition is shown like the above-mentioned experiment example 1 also to the common crab grass (gramineous weed) of comparatively high leaf age so that the result of the 2nd table may show.

[0027]

Experiment example 3

What filled ariculture soil in a 1/1,000,000ha pot was prepared by 2 ream system, and seeding of the seed of common crab grass and a cocklebur was carried out. Then, when common crab grass reached at 2.8 leaf stages and a cocklebur reached respectively at 2.3 leaf stages, the water dispersible granule obtained in the above-mentioned execution example 1 was diluted with 500L/ha of water containing the frigate (trade name) of predetermined quantity, and foliage treatment was carried out by the small spray. 22 days after treatment, observational research of the growth state of common crab grass and a cocklebur was carried out like the above-mentioned experiment example 1 with the naked eye, and the result of the 3rd table was obtained.

[0028]

[Table 3]

第 3 表

フリゲートの添加量 (水に対する容量%)	化合物 A の 施用量(g/ha)	生育抑制率 (%)			
		メヒシバ		オナモミ	
0.5	40	98	98	98	98
	20	98	95	85	90
	10	90	90	-	-
0.25	40	98	95	98	98
	20	95	95	98	95
	10	80	80	-	-
0.125	40	98	98	98	98
	20	95	90	85	80
	10	65	60	-	-

[0029]

The outstanding growth inhibition is shown like the above-mentioned experiment example 1 also to a cocklebur (broad leaf weed) so that the result of the 3rd table may show.